HOME OFFICE

CIVIL DEFENCE

THE ATOM BOMB ITS EFFECTS & HOW TO MEET THEM

PART 2

"HEAT"

FILM STRIP C.D. 32

LECTURE NOTES

LONDON : HER MAJESTY'S STATIONERY OFFICE

1953

Final

FILM STRIP CD 32

The Atom Bomb - its effects and how to meet them

PART 2

HEAT

INTRODUCTION

The Heat flash as it is called, may start a number of primary fires - it is not dangerous to human life provided that a person has some form of protection.

Those people exposed in a direct unshielded line to the bomb will be affected.

FRAME

1 Heat flash produces its own phenomenon, that of Flash burn shadow. All the area surrounding an object is affected by the intense momentary heat of the flash with the exception of that part directly in the shadow of the object, like this fern leaf.

2 This effect occurs so rapidly that the outline of the leaf is clearly left before the leaf itself is destroyed.

3 In this case the shadow of a man was left. (The debris has been cleared showing that the heat flash came before the blast.)

4 Here the flash came through the window and left the imprint of a man's pipe.

5 This phenomenon can be used in determining the direction of ground zero. Simple devices, like this board fixed in suitable positions will give both the height and direction of the burst.

6 The shadow will be indelibly marked on the board while it is still in place and the reading will be true no matter where the blast may shift the board.

FRAME

7 Should the population have failed to take cover prior to the explosion severe skin burns would be very heavy up to a distance of two miles from ground zero in clear weather.

It is important to realise that weather conditions at the time of the explosion have a marked effect on the range of the heat flash. In heavy mist, rain or fog the effective range of the flash is more than halved.

8 Types of clothing worn by unsheltered people will also affect the number of injuries from burns. Covering of all normally exposed parts of the body with any material will invariably lessen the severity of the burns.

9 If a person is shielded from the direct heat flash there is no danger.

10 The indirect danger is from fires started by the flash. Any easily inflammable material exposed within a two mile radius of ground zero, in clear weather, is liable to be ignited by the heat flash, although it is very unlikely that there will be many fires beyond the $1\frac{1}{4}$-$1\frac{1}{2}$ mile radius.

11 In this country little use is made of wood or other combustible materials on the exterior of buildings. The main danger from fire would be internal, the flash entering through windows and other apertures directly exposed to the flash and it is therefore likely that a large number of primary fires will be started on the upper floors of the buildings.

12 The fires may be quite small and can be dealt with by hand operated fire fighting equipment.

It is important that small fires in otherwise undamaged areas be dealt with quickly. Otherwise the spread of such fires would seriously impede the fire fighting and rescue squads endeavouring to reach the more heavily damaged area.

FRAME

13 The risk of fire from heat flash can be greatly reduced by white-washing window panes. As the blast wave travels much slower than the heat flash, the glass will not be shattered until after the heat flash has done its harm.

14 At night time a wooden "black out screen" fitted to the window will also serve as a deterrent to heat flash. All such screens should be white-washed on the outside.

15 If the curtaining material is very heavy it will also serve to stop the heat flash entering, but there is a risk of the curtains themselves igniting.

16 There are several ways of making materials fire resisting, this can be done at home, and householders will be advised on how this is best done.

17 The most serious fire situations may be expected at the three-quarter mile range from ground zero. This will include a number of secondary fires started by collapsing buildings.

18 It will be important to warn the public that all domestic cooking and heating appliances must be turned off at the mains before taking cover.

19 Fire will be a very grave danger to human life and property after an atomic bomb explosion, and fire fighting equipment should be kept readily available.

CROWN COPYRIGHT RESERVED

PRINTED AND PUBLISHED BY HER MAJESTY'S STATIONERY OFFICE

To be purchased from

York House, Kingsway, LONDON, W.C.2 423 Oxford Street, LONDON, W.1
P.O. Box 569, LONDON, S.E.1
13a Castle Street, EDINBURGH, 2 1 St. Andrew's Crescent, CARDIFF
39 King Street, MANCHESTER, 2 Tower Lane, BRISTOL, 1
2 Edmund Street, BIRMINGHAM, 3 80 Chichester Street, BELFAST
or from any Bookseller

1953

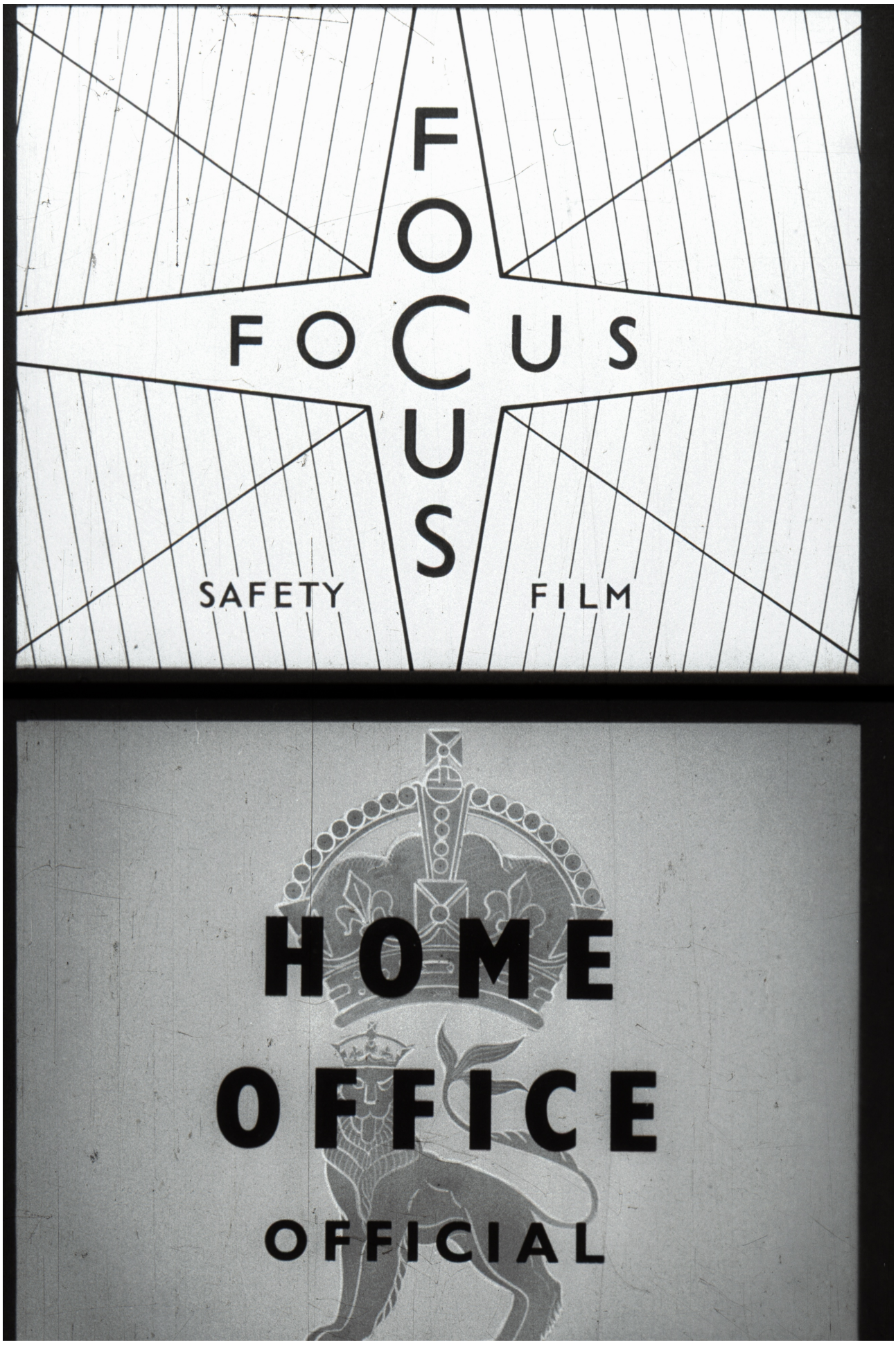
Price 6d. net

(Price including Film Strip 5s. 0d net)

Printed in Great Britain

DS 03201/1/334 K10 7/53 DL

34-9999


FOCUS
FOCUS
SAFETY
FILM
HOME
OFFICE
OFFICIAL

HOME OFFICE

CIVIL DEFENCE TRAINING BRANCH

BASIC GENERAL & REFRESHER TRAINING

THE ATOM BOMB, ITS EFFECTS AND HOW TO MEET THEM

PART 2

HEAT

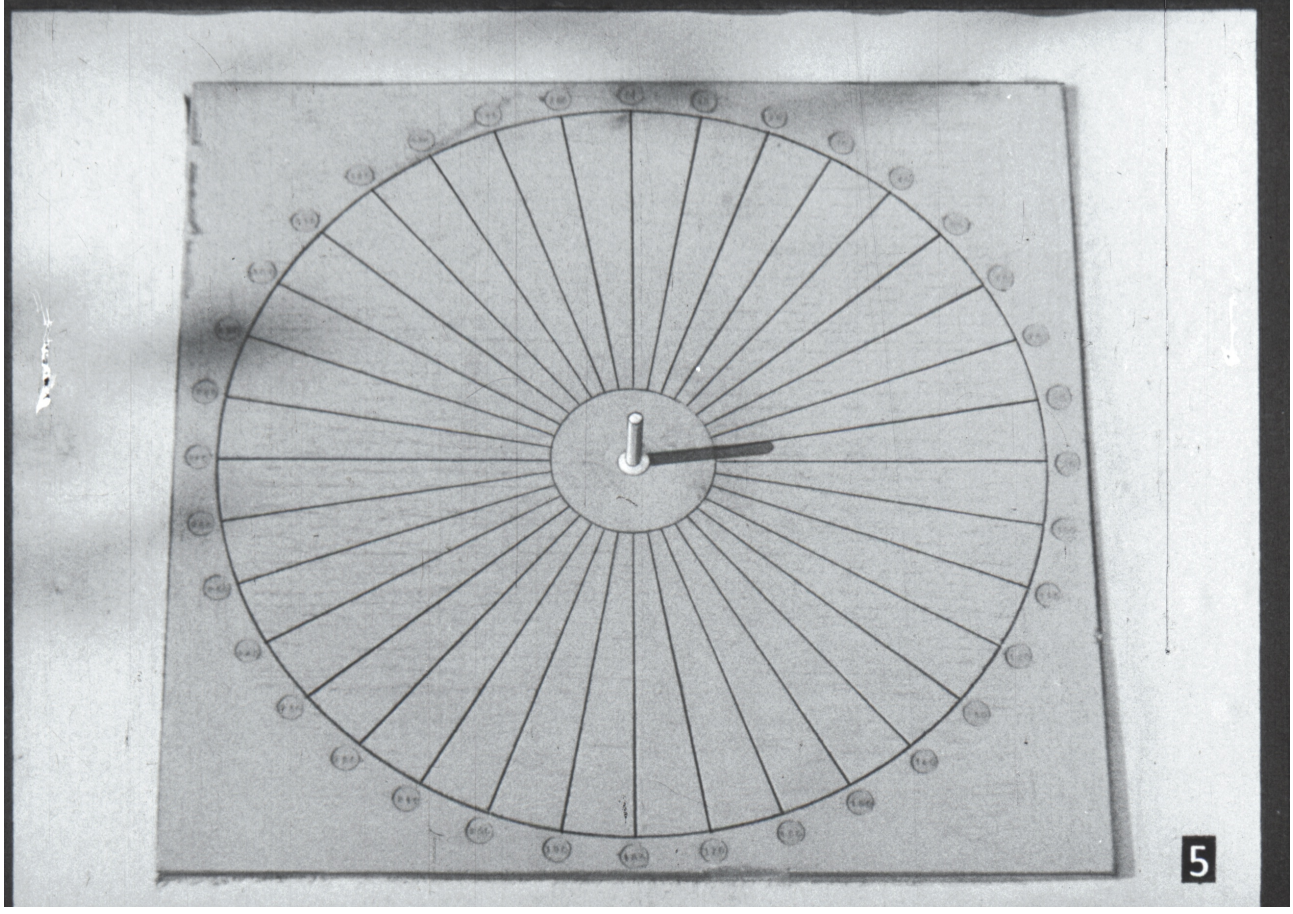
March 1953

CD 32

2

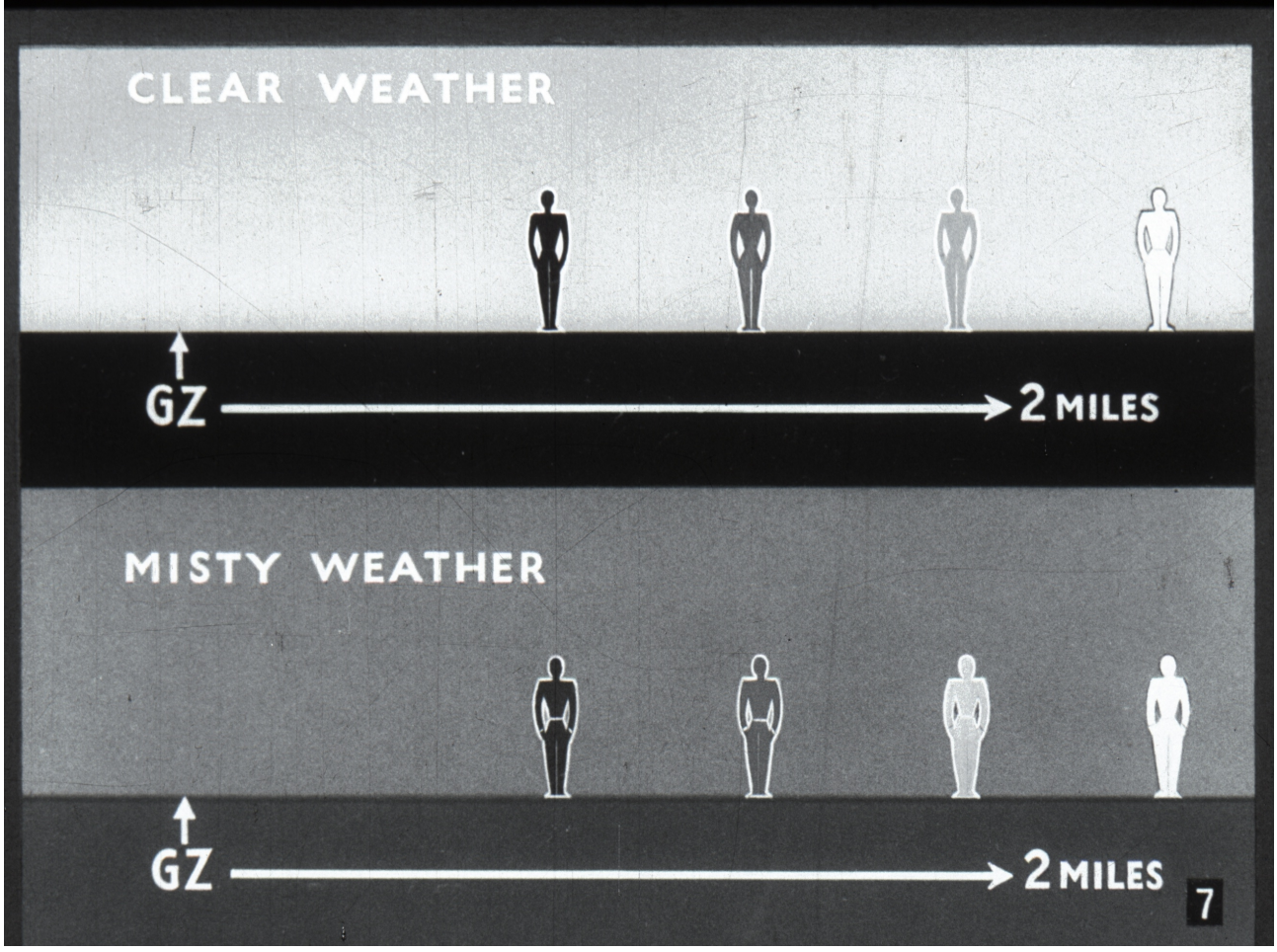
3

4



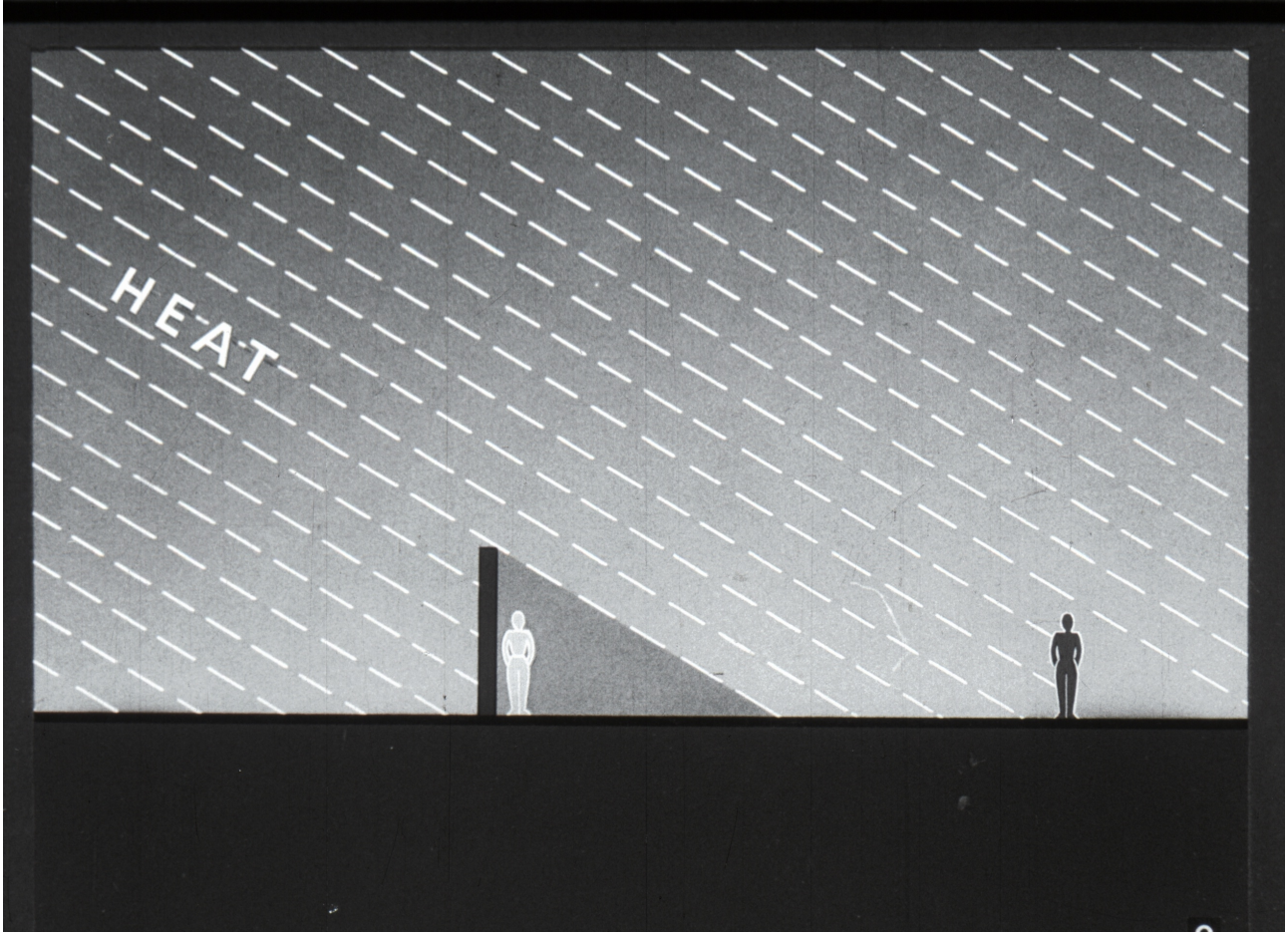
5

6



7

8


HEAT

HEAT
10

11

12

13

14

15

14

15

16

17

THE END

CROWN COPYRIGHT RESERVED